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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/510,349      | 10/06/2004  | Naoki Ayai           | 040256-0134         | 7524             |

22428 7590 02/23/2007  
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| EXAMINER |
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ARBES, CARL J

|          |              |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

3729

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 02/23/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/510,349             | AYAI, NAOKI         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | C. J. Arbes            | 3729                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5, 6 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>herein</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita et al. (Pat No. 5,145,835) hereinafter Takeshita et al. Takeshita et al teach a process for fabrication of superconducting ceramic materials by HIP treatment. A metal casting containing a starting powder material having a composition for forming an oxide superconductor is prepared. The starting material is calcined in the casing at about 850-950 degrees Celsius. The casing is subjected to a HIP treatment, to a hot deforming treatment and then to a cold deforming treatment. According to the evidence (Cf. bottom of Col 4 in Takeshita et al) the casing can be sealed in a vacuum. The raw materials can be calcined or heat treated at a temperature range between 300-950 degrees Celsius (Cf. Col 4). It would have been obvious at the time of this invention to provide that the packing density of the raw material powder was between 10-40% inasmuch as between these amounts of density the optimum results will occur and this range of packing densities would be within the skill of a PHOSITA. Moreover it will be noted that Takeshita et al do not teach any specific depressurization speeds. This is because a PHOSITA would determine, by use of ordinary skill in this art, the depressurization speed range which is recited in claims 1 and 2 for the method of manufacturing of a superconducting wire. As applied to claims 5 and 9 it is held that the recited methods of sealing the metal pipe are all old and hence obvious in view of the prior art. As applied to claim 6 and it is held that the temperatures taught in the prior art

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are substantially within those recited in this claim so as to make obvious the claimed invention

Claims 1-3, 5, 6 and 9-11 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Makai et al (Pat No 5,462,920) hereinafter Makai et al.

Makai et al teach a method of preparing oxide superconducting wire wherein powder is placed into a metal casing which is degassed with a high vacuum and sealed. (Cf.

Abstract) The casing is extruded and then heat treated. The casing is made by electron beam welding (Cf. Col 2) and the hydrostatic extrusion is carried out with a temperature not more than 600 degrees Celsius. It would have been obvious to provide a packing density of the raw material is between 10-40% if, in fact, Makai et al do not expressly teach this limitation for the same reason as given *supra* i.e. obtain optimum results.

Moreover it is noted that Makei et al do not teach any specific depressurization speeds. This is because a PHOSITA would determine, by use of ordinary skill in this art, the depressurization speed range which is recited in claims 1 and 2. As applied to claim 6 and it is held that the temperatures taught in the prior art are substantially within those recited in this claim so as to make obvious the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563.

The examiner can normally be reached on M,, T, R and F from 8 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



C. J. Arbes  
Primary Examiner  
Art Unit 3729